

## **REGULATION III - CONTROL OF AIR CONTAMINANTS**

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**MARICOPA COUNTY  
AIR POLLUTION CONTROL REGULATIONS**

**REGULATION III - CONTROL OF AIR CONTAMINANTS**

**RULE 339  
VEGETABLE OIL EXTRACTION PROCESSES**

**SECTION 100 - GENERAL**

- 101 PURPOSE:** To limit the emissions of volatile organic compounds (VOCs) from the extraction of vegetable oil using solvents.
- 102 APPLICABILITY:** This rule applies to any vegetable oil extraction facility which has emitted 600 pounds (272 kg) or more of VOC in a day or 100 tons (90.7 Mg) or more of VOC in a year, or which would emit at such levels in the absence of existing VOC control measures, or reasonably could be expected to emit at such levels at current or proposed production rates.

**SECTION 200 - DEFINITIONS:** For the purpose of this rule, the following definitions shall apply:

- 201 APPROVED EMISSION CONTROL SYSTEM** - A system for reducing emissions of organic compounds, consisting of both collection and control devices which are approved in writing by the Control Officer and are designed and operated in accordance with good engineering practice.
- 202 CONVEYOR** - Any device which moves material from one location to another location.
- 203 COOLER** - A device which reduces the temperature and/or moisture from meal being processed.
- 204 DESOLVENTIZER-TOASTER (D-T)** - A heated process unit in which air and/or steam are applied to solvated vegetable matter to volatilize the extraction solvent.
- 205 EQUIPMENT IN SOLVENT SERVICE** - Any pump, valve, pressure relief valve, sight glass, sample connection, open-ended valve, connector, or other component which handles extraction solvent or material containing such solvent.

- 206 EXTRACTOR-** Equipment which removes vegetable oil from vegetable material through the use of solvent.
- 207 LEAK** - Any dripping or indication of dripping of liquid from equipment in solvent service, or an emission of gaseous VOC which exceeds 10,000 ppm (expressed as methane) above background when measurements are made using EPA Method 21.
- 208 MEAL** - Pulverized vegetable matter from which oil has been extracted and which might still contain some extraction solvent.
- 209 MINERAL-OIL SCRUBBER** - A packed tower which uses mineral oil as a sorbent for the extraction solvent.
- 210 SOLVENT** - The extraction medium used to extract oil from seeds, beans or other vegetable matter.
- 211 SOLVENT EXTRACTION** - Removal of vegetable oil from vegetable matter using a liquid solvent in a contact system to dissolve and suspend the oil.
- 212 VEGETABLE OIL PLANT** - Any facility or section of a facility engaged in the extraction or refining of vegetable oil through the use of solvent.
- Note<sup>1</sup>**
- 213 VOLATILE ORGANIC COMPOUND (VOC)** - Any organic compound, excluding the following organic compounds which have been designated by the EPA as having negligible photochemical reactivity: methane; ethane; methylene chloride (dichloromethane); 1,1,1-trichloroethane; trichlorofluoromethane (CFC-11); dichlorodifluoromethane (CFC-12); chlorodifluoromethane (CFC-22); 1,1,2-trichlorotrifluoroethane (CFC-113); 1,2-dichlorotetrafluoroethane (CFC-114); chloropentafluoroethane (CFC-115); trifluoromethane (FC-23); 2,2-dichloro-1,1,1-trifluoroethane (HCFC-123); 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124); 1,1-dichloro-1-fluoroethane (HCFC-141b); 1-chloro-1,1-difluoroethane (HCFC-142b); pentafluoroethane (HFC-125); 1,1,2,2-tetrafluoroethane (HFC-134); 1,1,1,2-tetrafluoroethane (HFC-134a); 1,1,1-trifluoroethane (HFC-143a); 1,1-difluoroethane (HFC-152a); all completely fluorinated, completely saturated: alkanes, ethers and tertiary amines.

## SECTION 300 - STANDARDS

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<sup>1</sup> This note is not part of Rule 339, but is included for the reader's convenience. The current list of exempt organic compounds is in Rule 100, Section 200, in the definition of Non-Precursor Organic Compound.

- 301 LIMITATION - VOC EMISSIONS:** No person shall operate a vegetable oil extraction plant or facility unless the emissions do not exceed either of the following:
- 301.1** 2.5 pounds of VOC per ton of processed seed (1.13 kg/Mg) for any 30 consecutive days of operation; and
- 301.2** 3.0 pounds of VOC per ton of processed seed (1.36 kg/Mg) for any seven consecutive days of operation.
- 302 EXTRACTORS AND DESOLVENTIZER-TOASTERS:** No person shall operate any extractor or desolventizer-toaster unless VOC emissions are controlled by both a condenser and a mineral-oil scrubber. Such scrubber shall have an overall VOC-control efficiency (capture with processing) of at least 90 percent by weight.
- 303 DESOLVENTIZER-TOASTER CONVEYOR:** No person shall operate a vegetable oil plant unless the desolventizer-toaster discharge conveyor is vented to a mineral oil scrubber having an overall VOC-control efficiency (capture with processing) of at least 90 percent by weight.
- 304 OPERATION AND MAINTENANCE PLAN:** Owners or operators shall provide the Control Officer with an Operation and Maintenance (O&M) Plan. This Plan shall specify key system operating parameters, such as temperatures, pressures and/or flow rates, necessary to determine compliance with this rule and describe in detail procedures to maintain the Approved Emission Control System. The Control Officer's written approval of this plan shall be required for compliance with this rule to be achieved.
- 305 EQUIPMENT IN SOLVENT SERVICE:** The owner or operator of a vegetable oil extraction plant shall inspect at least once a month all equipment in solvent service for any indication of VOC leakage in accordance with EPA Method 21. If the detected gaseous leakage level exceeds 10,000 ppm (expressed as methane) or if leak(s) are visible, the leak shall be tagged with a weatherproof tag. The date and time of the leak's discovery shall be recorded in a permanent logbook. The operator shall attempt to repair such leak(s) as soon as possible. The operator shall notify the Control Officer by the Division's next working day of leak(s) which cannot be fixed within 24 hours of discovery. No leak shall remain unrepaired by the end of any plant shutdown.
- 306 EXEMPTIONS:** In determining compliance with subsection 301.2 of this rule, the Division shall exclude from calculations a startup day and the VOC added on that day, subsequent to purging the extractor and/or the refinery of all solvent.

**Note<sup>2</sup>**

## **SECTION 400 - ADMINISTRATIVE**

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<sup>2</sup> This note is not part of Rule 339, but is provided as a convenience to the reader. What is referred to as "the Division" is, in 1997, the Maricopa County Environmental Services Department.

- 401 COMPLIANCE SCHEDULE:** By February 14, 1993, any person subject to Section 301, 302, or 303, who does not comply with all provisions of said section(s) shall submit to the Control Officer for approval an emission control plan describing the method to be used to achieve full compliance by November 15, 1993. The plan shall specify dates for completing increments of progress, such as the contractual arrival date of new control equipment. The Control Officer may require a person submitting such emission control plan to submit subsequent reports on progress in achieving compliance.

## **SECTION 500 - MONITORING AND RECORDS**

- 501 PROVIDING AND MAINTAINING MONITORING DEVICES:** Any person sorbing or otherwise processing VOC emissions to reduce them pursuant to this rule, shall provide, properly install and maintain in calibration, in good working order and in operation, devices described in an approved O&M Plan for indicating temperatures, pressures, rates of flow, or other operating conditions necessary to determine if air pollution control equipment is functioning properly and is properly maintained.
- 502 RECORDKEEPING AND REPORTING:** Any person subject to this rule shall comply with the following requirements. Any records and lists required by this section shall be kept in a consistent and complete manner.
- 502.1 Material Usage:** Maintain a current list of solvents, mineral oil and any other VOC-containing materials such as paints and cleaning liquids which annually exceed 20 gallons and state the VOC content of each in pounds per gallon or grams per liter. Daily record the amount of makeup solvent, the tons of vegetable matter subject to extraction, the amount of vegetable oil produced, and amount of mineral oil added.
- 502.2 Operation and Maintenance:** Maintain a record of the times an Approved Emission Control Device is used to comply with this rule. Maintain daily records of the O&M Plan's key system operating-parameters. Maintain records of all maintenance performed according to the O&M Plan.
- 502.3 Calculations:** By the end of each day-shift, calculate both the seven-day and the thirty-day rolling averages yielding daily VOC-consumption figures, using data gathered up to and including the previous shift.
- 502.4 Logbook:** A permanent logbook shall be kept of dates, times, and locations of all: leak-detection activities, leaks found, leaks repaired, shutdowns and startups. During operating hours the logbook, as well as entries required under the preceding subsections 502.1, 502.2 and 502.3, shall immediately be made available to the Control Officer upon request.

**503 RECORDS RETENTION:** Copies of reports and supporting documentation required by the Control Officer shall be retained at least three years after the date of submittal. Records and information required by this rule shall be retained for at least three years.

**504 COMPLIANCE DETERMINATION - TEST METHODS:** An exceedance of the limits established in the rule determined by any of the applicable test methods constitutes a violation of this rule.

**504.1** Control efficiency of an emissions control device shall be determined according to EPA Reference Method 25 or its applicable submethods, Title 40, CFR Part 60, Appendix A.

**504.2** Gaseous leaks shall be tested for using EPA Method 21.

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